

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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WIRTGEN AMERICA, INC. and WIRTGEN GMBH  
Petitioner

v.

CATERPILLAR PAVING PRODUCTS INC.,  
Patent Owner.

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Case IPR2018-01201  
Patent 7,140,693 B2

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Before LYNNE H. BROWNE, JAMES J. MAYBERRY, and  
RICHARD H. MARSCHALL, *Administrative Patent Judges*.

BROWNE, *Administrative Patent Judge*.

DECISION  
Institution of *Inter Partes* Review  
35 U.S.C. § 314

## I. INTRODUCTION

Wirtgen America, Inc. and Wirtgen GmbH (“Petitioner”), on June 7, 2018, filed a Petition to institute *inter partes* review of claims 1–3, 5, 6, 15–19, 24–28, 36, and 38 of U.S. Patent No. 7,140,693 B2 (“the ’693 patent”). Paper 2 (“Pet.”). Caterpillar Paving Products, Inc. (“Patent Owner”) filed a Preliminary Response to the Petition on October 15, 2018. Paper 8 (“Prelim. Resp.”).

Under 35 U.S.C. § 314(a), an *inter partes* review may not be instituted unless the Petition “shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” For the reasons stated below, we determine that Petitioner has established a reasonable likelihood that it would prevail in showing the unpatentability of at least one claim of the ’693 patent. Accordingly, we institute an *inter partes* review as to all claims and all grounds.

### A. *Related Proceedings*

Petitioner indicates that the ’693 patent is the subject of “ITC Investigation No. 337-TA-1088 entitled ‘Road Construction Machines and Components Thereof’ filed on October 26, 2017.” Pet. 69.

Petitioner concurrently filed another petition requesting *inter partes* review challenging claims 1–3, 15–19, 24–28, 36, and 38 of the ’693 patent. IPR2018-01202, Paper 3.

### B. *The ’693 Patent*

The ’693 patent is directed “to work machines for the treatment of roadway surfaces, and more particularly to a planer or milling machine for asphalt and concrete.” Ex. 1001, 1:6–8. In the work machine described in the ’693 patent, automated movement to position a wheel or track assembly



Figure 2 “is a schematic top plan view—partially in section—of a detail of a cold planer . . . showing an articulation apparatus of a preferred embodiment of the present invention with a rear wheel arranged in a projecting position relative to the frame.” *Id.* at 2:60–64. Articulation apparatus 10 includes support arm 11 connected to lifting column 32. *Id.* at 3:58–59. Apparatus 10 also includes first actuator 20 that pivots the support arm relative to frame 2 and second actuator 21 for rotating wheel 5 about vertical axis Z. *Id.* at 3:61–64.

*C. Illustrative Claim*

Petitioner challenges claims 1–3, 5, 6, 15–19, 24–28, 36, and 38 of the ’693 patent. Claims 1, 17, 36, and 38 are independent. Representative claim 1 is reproduced below:

1. A work machine comprising:
  - a frame supported by a pair of front wheels or tracks and a pair of rear wheels or tracks, at least one of the wheels or tracks being associated with a respective lifting column adapted to raise and lower said frame relative to the respective wheel or track;
  - a work tool supported by said frame;
  - a drive mechanism adapted to rotate said work tool and at least one of said wheels or tracks;
  - an articulation apparatus adapted to pivotally move said one of said wheels or tracks associated with said lifting column between a projecting position and a retracted position relative to said frame, said articulation apparatus including:
    - a support arm pivotally connecting said frame to the lifting column associated with said one wheel or track;
    - a first actuator connected to said support arm and operable to pivot said support arm relative to said frame;
    - a second actuator adapted to rotate said at least one wheel or track about a vertical axis.

Ex. 1001, 9:25–43.

*D. References Relied Upon*

Petitioner relies on the following references as the basis for the grounds of rejection or as evidence in support of a position advanced by Petitioner:

Name	Reference	Ex. No.
Volpe	SF 100 T4 Operator's Manual, published October, 1993	1005
Ulrich	US 3,633,292, issued Jan. 11, 1972	1006
Bitelli '088	EP 1 001 088 A2, published May, 17, 2000	1007
Busley	WO 97/42377, published Nov. 13, 1997	1008
Bitelli '037	EP 1 039 037 A2, published Sept. 27, 2000	1012

*E. The Asserted Grounds of Unpatentability*

Petitioner asserts the challenged claims are unpatentable on the following grounds:

Reference(s)	Basis	Claim(s) challenged
Volpe and Ulrich	§ 103(a)	1, 17–19, 24, and 25
Volpe, Ulrich, and Bitelli '088	§ 103(a)	15, 16, 26, 27, 36
Volpe, Ulrich, & Busley	§ 103(a)	2, 3, 5, 6 and 19
Volpe, Ulrich, and Bitelli '037	§ 103(a)	28

Pet. 18–19. Petitioner supports its challenge with the Declarations of Ray Hogan, dated June 4, 2018 (“Hogan Declaration”) (Ex. 1014), Charles Randall Henderson, dated June 4, 2018 (“Henderson Declaration”) (Ex. 1015), and William Zehender, dated June 6, 2018 (“Zehender Declaration”) (Ex. 1016).

## II. ANALYSIS

### A. *Claim Construction*

The claim construction standard to be employed in an *inter partes* review recently changed. *See Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board*, 83 Fed. Reg. 51340 (October 11, 2018). At the time of the filing of the Petition in this proceeding, however, the applicable claim construction standard was set forth in 37 C.F.R. § 42.100(b), which provides that “[a] claim in an unexpired patent . . . shall be given its broadest reasonable construction in light of the specification of the patent in which it appears.” 37 C.F.R. § 42.100(b) (2016); *see also Cuzco Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2142 (2016) (upholding the use of the broadest reasonable interpretation standard). Accordingly, in this *inter partes* review, claim terms are given their broadest reasonable construction in light of the specification of the patent in which they appear. Under the broadest reasonable construction standard, claim terms are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire disclosure. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). Also, we are careful not to read a particular embodiment appearing in the written description into the claim if the claim language is broader than the embodiment. *See In re Van Geuns*, 988 F.2d 1181, 1184 (Fed. Cir. 1993) (“[L]imitations are not to be read into the claims from the specification.”). At this stage of this proceeding, we determine that it is unnecessary to construe explicitly any claim.

*B. Principles of Law*

A patent claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and, when presented, (4) objective evidence of nonobviousness.<sup>2</sup> *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966). We analyze the asserted grounds of unpatentability in accordance with these principles.

*C. Our Discretion Under 35 U.S.C. §§ 314(a) and 325(d)*

The Board has discretion not to institute an *inter partes* review. See 35 U.S.C. § 314(a) (authorizing institution of an *inter partes* review under particular circumstances, but not requiring institution under any circumstances); 37 C.F.R. § 42.108(a) (stating “the Board may authorize the review to proceed”); *Harmonic Inc. v. Avid Tech, Inc.*, 815 F.3d 1356, 1367 (Fed. Cir. 2016) (explaining that under § 314(a), “the PTO is permitted, but never compelled, to institute an IPR proceeding”); *Cultec, Inc. v. Stormtech LLC*, Case IPR2017-00777 (PTAB Aug. 22, 2017) (Paper 7) (informative) (exercising discretion under 35 U.S.C. § 325(d) to not institute *inter partes* review proceeding). Patent Owner contends that we should exercise our

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<sup>2</sup> We note that Patent Owner does not present any objective evidence of nonobviousness at this stage of the proceeding.

discretion under either 35 U.S.C. § 314(a) or § 325(d) and not institute trial in this proceeding. Prelim. Resp. 4–28. Petitioner disagrees. Paper 10, (“Reply”).

1. *Discretion under 35 U.S.C. § 314(a)*

In *General Plastic Industrial Co., Ltd. v. Canon Kabushiki Kaisha*, the Board enumerated non-exhaustive factors that the Board would consider in exercising discretion on instituting *inter partes* review, especially as to “follow-on” petitions challenging the same patent as challenged previously in an *inter partes* review. Case IPR2016-01357, slip op. at 16 (PTAB Sept. 6, 2017) (Paper 19) (§ II.B.4.i precedential); *see* Office Trial Practice Guide, August 2018 Update, 83 Fed. Reg. 39989 (Aug. 13, 2018) (Notice of update); Trial Practice Guide Update (August 2018), 9–10 (Considerations in Instituting a Review (discussing *General Plastic*)). The non-exhaustive *General Plastic* factors are

1. whether the same petitioner previously filed a petition directed to the same claims of the same patent;
2. whether at the time of filing of the first petition the petitioner knew of the prior art asserted in the second petition or should have known of it;
3. whether at the time of filing of the second petition the petitioner already received the patent owner’s preliminary

- response to the first petition or received the Board’s decision on whether to institute review in the first petition;
4. the length of time that elapsed between the time the petitioner learned of the prior art asserted in the second petition and the filing of the second petition;
  5. whether the petitioner provides adequate explanation for the time elapsed between the filings of multiple petitions directed to the same claims of the same patent;
  6. the finite resources of the Board; and
  7. the requirement under 35 U.S.C. § 316(a)(11) to issue a final determination not later than 1 year after the date on which the Director notices institution of review.

*General Plastic*, slip op. at 9–10.<sup>3</sup> As the Office Trial Practice Guide explains, the *General Plastic* factors are not dispositive, but are part of a balanced assessment of the relevant circumstances in a particular case. Trial Practice Guide Update (August 2018), 10.

Patent Owner encourages us to exercise our discretion under § 314(a) “because instituting *inter partes* review would be inefficient and would waste the Board’s resources.” Prelim. Resp. 4. Patent Owner notes that “[o]ne of the purposes of the AIA was to ‘establish a more efficient and streamlined patent system that will improve patent quality and limit unnecessary and counterproductive litigation costs.’” *Id.* (citing H.R. Rep. No. 112–98, pt. 1, at 40 (2011), 2011 U.S.C.C.A.N. 67, 69 (stating that post grant reviews were meant to be ‘quick and cost effective alternatives to litigation’); S. Rep. No. 110–259, at 20 (2008); PTAB Trial Practice Guide August 2018 Update, at 9). Given this purpose, Patent Owner contends that efficiency of the *inter partes* review process and fundamental fairness to

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<sup>3</sup> See also *NVIDIA Corp. v. Samsung Elec. Co.*, Case IPR2016-00134 (PTAB May 4, 2016) (Paper 9) (cited by *General Plastic*).

both parties will be served if we exercise our discretion to deny institution of trial in this proceeding. *Id.* at 6 (citing *General Plastic Industrial Co., Ltd. V. Canon Kabushi Kaisha*, IPR2016-01357, Paper 19 at 9-10 (P.T.A.B. Sept. 6, 2017) (precedential)). Specifically, Patent Owner asserts that *General Plastic* Factors 6 and 7—related to the finite resources of the Board and the requirement to issue a final determination not later than one year after the date on which the Director notices institution of review—are applicable here.” *Id.* at 7–8.

In support of these assertions, Patent Owner notes that “Petitioners have asserted the same four invalidity grounds from this Petition in the [related] ITC Investigation, nearly verbatim.” *Id.* at 8 (citing Ex. 2001). Patent Owner further notes that an initial determination from the ITC’s Administrative Law Judge (“ALJ”) is due on November 29, 2018, whereas, the institution decision in this proceeding is not due until January 15, 2019. *Id.* Thus, according to Patent Owner, the ALJ in the ITC case will have already considered and ruled on these grounds before the Board’s institution decision is due. *Id.* In addition, Patent Owner notes that “[n]ot only will the ALJ’s ruling be released before the Board even considers the issues in the petition, but the entire ITC case will also be completed long before a final written decision could issue in this proceeding.” *Id.* at 9. Patent Owner also directs our attention to *NetApp Inc. V. Realtime Data LLC*<sup>4</sup> (denying institution because the final written decision would not issue until well after the scheduled trial date) and *NHK Spring Co., Ltd. v. Intri-Plex*

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<sup>4</sup> IPR2017-01195, Paper 9 at 12–13 (P.T.A.B. Oct. 12, 2017).

*Technologies, Inc.*,<sup>5</sup> (denying institution because of the advanced state of the district court proceeding).

Petitioner urges us not to exercise our discretion under § 314(a) for two reasons. Reply 1–8. First, Petitioner contends that the *General Plastic* factors are not satisfied in this proceeding. *Id.* at 3. Specifically, Petitioner asserts that *General Plastic* factors 6 and 7, like factors 1–5, apply to follow-on petitions and are not “more broadly applicable to petitions that present issues similar to those being adjudicated in co-pending ITC litigation.” *Id.* (citing Prelim. Resp. 7–8). Petitioner notes that the decisions cited by Patent Owner in support of the proposition that co-pending litigation, without more, can satisfy the *General Plastic* factors either involve follow-on petitions or involve co-pending district court litigation.

Second, Petitioner asserts that “[a]n ITC Investigation cannot resolve a challenge to patent validity in any other forum—including the PTAB—because *the ITC does not have authority to invalidate a patent.*” Reply 6 (citing *Am. Hosp. Supply Corp. v. Travenol Lab.*, 745 F.2d 1, 5 (Fed. Cir. 1984); *In re Certain Steel Rod Treating Apparatus and Components Thereof*, USITC Pub. 1210, Inv. No. 337-TA-097 (Jan. 1982)). Petitioner further asserts that “ITC decisions do not necessarily inform issues raised in IPR petitions due to the different evidentiary standards and burdens.” *Id.* (citing *Instradent USA, Inc. v. Nobel Biocare Services AG*, IPR2015-01786, Paper 106 at 3–4 (P.T.A.B. Feb. 15, 2017)).

Petitioner has the better position. As discussed above, the petitions at issue in *General Plastics* were follow-on petitions. Further, as noted by

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<sup>5</sup> IPR2018-00752, Paper 8 at 19–20 (P.T.A.B. Sept. 12, 2018).

Petitioner, the ITC does not have the authority to invalidate a patent and ITC decisions do not necessarily pertain to the issues raised in an *inter partes* review petition because of the difference in evidentiary standards and burdens. Thus, while the ITC's decision in the co-pending investigation may inform our decision, it does not render our proceeding duplicative or amount to a waste of the Board's resources.

For these reasons, we decline to exercise our discretion under 35 U.S.C. § 314(a).

2. *Discretion under 35 U.S.C. § 325(d)*

In *Becton, Dickinson & Co. v. B. Braun Melsungen AG*, the Board enumerated non-exhaustive factors that the Board would consider in exercising discretion on instituting *inter partes* review. Case IPR2017-01586, slip op. 17–18 (PTAB Dec. 15, 2017) (Paper 8) (informative). The non-exhaustive *Becton* factors are:

1. the similarities and material differences between the asserted art and the prior art involved during examination;
2. the cumulative nature of the asserted art and the prior art evaluated during examination;
3. the extent to which the asserted art was evaluated during examination, including whether the prior art was the basis for rejection;
4. the extent of the overlap between the arguments made during examination and the manner in which Petitioner

relies on the prior art or Patent Owner distinguishes the prior art;

5. whether Petitioner has pointed out sufficiently how the Examiner erred in its evaluation of the asserted prior art; and
6. the extent to which additional evidence and facts presented in the Petition warrant reconsideration of the prior art or arguments.

*Id.* Like the *General Plastic* factors, the *Becton* factors are not dispositive, but are part of a balanced assessment of the relevant circumstances in a particular case.

Patent Owner encourages us to exercise our discretion under 35 U.S.C. § 325(d) to deny institution of trial in this proceeding because “Petitioners raise the ‘same or substantially the same prior art and arguments’ previously presented to the Office.” Prelim. Resp. 10 (citations omitted). Specifically, Patent Owner asserts that “the Bitelli Volpe SF 100 T4 machine described by the Volpe Manual was considered and applied by the Examiner during prosecution. Thus, the Volpe Manual is merely cumulative of what was considered and overcome during prosecution.” *Id.* at 13. Patent Owner further asserts that “Ulrich is cumulative of several other references applied by the Examiner during prosecution.” *Id.*

In support of these assertions, Patent Owner alleges that “[t]he Bitelli Volpe SF 100 T4, [which Patent Owner asserts is substantially the same as the Volpe Manual], was presented to the Examiner during prosecution in several ways.” Prelim. Resp. 14. Specifically, Patent Owner argues that the Examiner considered the Bitelli Volpe SF 100 T4 because it is described in the background section of the Specification of the ’693 patent, and, because

it was one of the references used in the Nullity Action (submitted to the Examiner during prosecution of the '693 patent).

Turning to the Ulrich reference, Patent Owner asserts that “Ulrich is substantially similar to the art applied by the Examiner and is merely cumulative of the art and issues directly before the Examiner during prosecution of the '693 patent.” Prelim. Resp. 19. Patent Owner alleges that “Petitioners rely on Ulrich for the concept of using two actuators to pivot the support arm and rotate the wheel or track. *See* Pet. at 24–25, 35–28. However, Ulrich’s teaching of these elements is substantially similar to and merely cumulative of several references applied by the Examiner during prosecution.” *Id.*

Responding to these assertions, Petitioner contends that the “Volpe Operator’s Manual cited in the Petition discloses features and details of the Volpe machine not previously considered by the Examiner.” Reply 8 (citing Pet. 14, 18). In support of this contention, Petitioner notes that “the Volpe-related exhibit associated with the Nullity Action that formed the basis for the Examiner’s rejection was in a foreign language and incomplete. *Id.* (citing Pet. 23, Ex. 1002, 151–155). Given these issues, Petitioner asserts that “[t]he Examiner therefore did not consider the most relevant document during prosecution, namely the English Volpe Operator’s Manual (Ex. 1005) which serves as the primary reference for this Petition.” *Id.*

In addition, Petitioner notes that “[t]he Petition also presents different statutory grounds for the Volpe machine than those applied during prosecution. The Nullity Action document formed the basis for an anticipation rejection during prosecution.” Reply 9 (citing Ex. 1002 at 181–182). According to Petitioner, “the Nullity Action contained a

conglomeration of several machines, and the Examiner's rejection was based on that briefing, not the underlying references. The rejection certainly was not based on the Volpe Operator's Manual at issue in the Petition." *Id.* (further citing Pet. 22–23).

Regarding the Ulrich reference, Petitioner contends that "Patent Owner also completely misrepresents references as cumulative with no basis in law or fact for doing so." Reply. 10. (citing Prelim. Resp. 20–27). Petitioner alleges that "Patent Owner's flawed understanding appears to be that if the Patent Office applied any reference to a limitation during prosecution, then any other reference used for that limitation (or even a different limitation) is per se cumulative." *Id.* Petitioner argues "[t]hat understanding has no basis in law and Patent Owner makes no attempt to support it." *Id.*

Again, Petitioner has the better position. We agree that the Volpe Manual is not the same or similar to Bitelli Volpe SF 100 T4 as referred to in the underlying prosecution for the reasons outline by Petitioner, and thus, is new art. Further, given the different requirements for a rejection under 35 U.S.C. § 103 as opposed to § 102, we also agree with Petitioner that the Petition raises new arguments not previously considered by the Office.

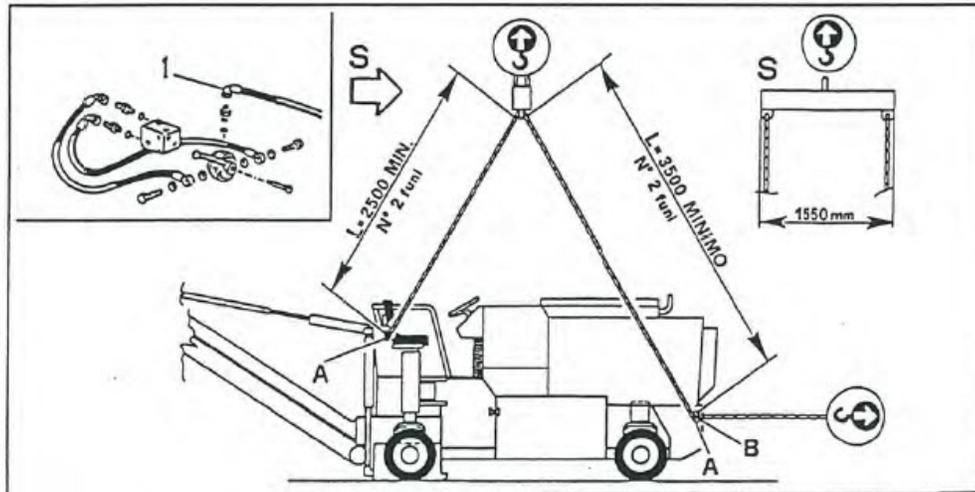
For these reasons, we decline to exercise our discretion under 35 U.S.C. § 325(d).

*D. Obviousness of Claims 1, 6, 9, 13, and 17*

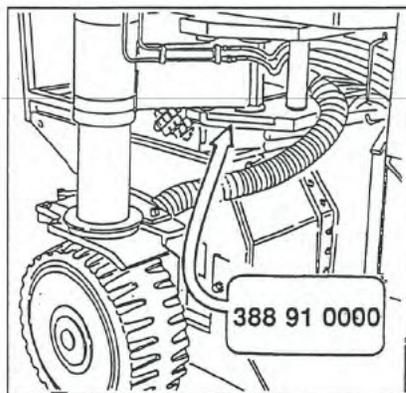
Petitioner asserts that claims 1, 17–19, 24, and 25 would have been obvious over Volpe and Ulrich. Pet. 23.

1. *Volpe*

*Volpe* is an operating manual for a cold planer. Ex. 1005, 2. The figure on page 16 is reproduced below:



This figure shows a side view of the cold planar. *Id.* at 16. As can be seen above, *Volpe*'s cold planar includes a frame supported by front and rear wheels. *Id.* *Volpe*'s right rear wheel is associated with a lifting column as shown in the top Figure on page 8, reproduced below:



This figure is a partial isometric view of a column and rear wheel of the cold planar. *See id.* This figure also shows a support arm and the machine's frame. *Id.* *Volpe* states, "the rear right wheel can be positioned so that it is flush with the profile of the cutter drum." *Id.* at 51. This position is

achieved by lowering the right side of the frame until the wheel is raised from the ground, swinging the support arm towards the frame, locking the wheel in place and lowering the wheel and raising the frame. *See id.*

Volpe's cold planar also includes a cutter drum and a diesel engine. *Id.* at 31, 32.

## 2. Ulrich

Ulrich is directed to a "self-propelled loader." Ex. 1006, 1:1. The loader includes frame 10 supported at its front end by a pair of combined steering and driving assemblies 20. *Id.* at 1:39-41. Each of the assemblies include arm 21 that can be automatically repositioned using a hydraulic cylinder or jack. *See id.* at 1:43-47 as shown in Figure 3, reproduced below:

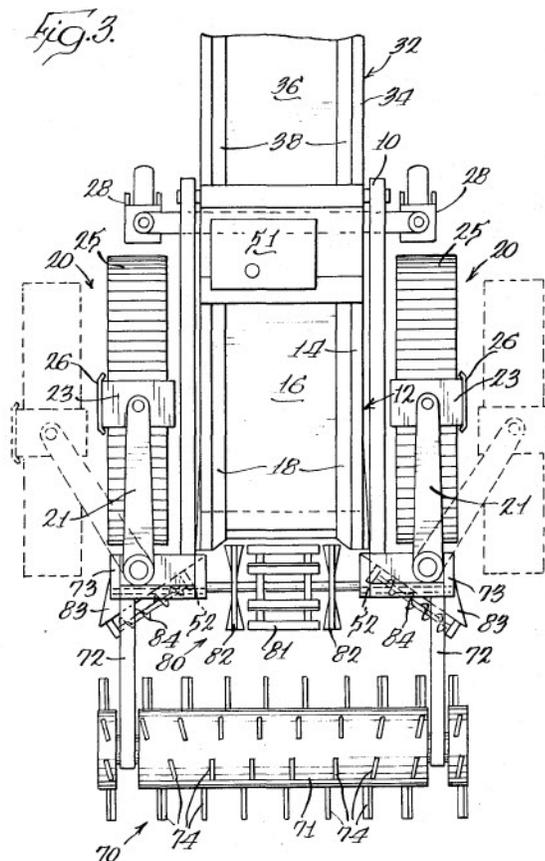


Figure 3 “is a plan view of the loader equipped with a rotary excavator for head-on excavation of earth materials, followed by impeller means for pushing loose earth materials onto the conveyor belt means of the loader.” *Id.* at 1:20–23. Ulrich also includes rotary drum 71 having a pair of supporting arms 72 and power plant 51 including an internal combustion engine. *Id.* at 4:1–6, 2:27–30.

### 3. *Petitioner’s Challenge*

Petitioner maps elements from Volpe, Ulrich, or both to the limitations of claims 1, 17–19, 24, and 25. Pet. 23–52. For example in challenging independent claim 1, Petitioner submits that:

- a. Volpe’s cold planar corresponds to the claimed work machine. Pet. 25.
- b. Volpe’s frame corresponds to the claimed frame. *Id.* at 26.
- c. Volpe’s front and rear wheels correspond to the claimed front and rear pairs of wheels or tracks. *Id.*
- d. Volpe’s sliding support corresponds to the claimed lifting column. *Id.* at 28.
- e. Volpe’s cutter drum corresponds to the claimed work tool. *Id.* at 30.
- f. Volpe’s diesel engine corresponds to the claimed drive mechanism. *Id.* 30.
- g. Volpe’s support arm pivotally connected to the frame corresponds to the claimed articulation apparatus. *See id.* at 31–32.
- h. Ulrich’s self-propelled loader also corresponds to the claimed work machine. *Id.* at 26.
- i. Ulrich’s frame also corresponds to the claimed frame. *Id.* at 28.

- j. Ulrich's front end pair of combined steering and driving assemblies also correspond to the claimed pair of front wheels or tracks. *Id.*
- k. Ulrich's rear assemblies also correspond to the claimed pair of rear wheels or tracks. *Id.*
- l. Ulrich's excavator assembly also corresponds to the claimed work tool. *Id.* at 30.
- m. Ulrich's support arms and actuators correspond to the claimed articulation apparatus. *See id.* at 34.
- n. Ulrich's motor means 22 corresponds to the claimed first actuator. *Id.* at 34–35.
- o. Ulrich's motor means 24 corresponds to the claimed second actuator. *Id.* at 37–38.

Petitioner also notes that Ulrich's articulation apparatus is automated. *Id.* at 34. Petitioner asserts that a person of ordinary skill in the art (POSITA) "would have known how to implement Ulrich's actuators into the Volpe Manual's machine." *Id.* at 38 (citing Ex. 1003 ¶ 104). Petitioner further asserts that "[a] POSITA would have had a reasonable expectation of success in modifying the articulation apparatus of the Volpe Manual with Ulrich's automated system to arrive at the claimed invention because Ulrich's actuators would perform the same function on the machine described in the Volpe Manual" and that "incorporating Ulrich's actuators into the Volpe Manual's machine would be nothing more than using a known technique (using actuators to pivot a support arm and control orientation of the wheel) to improve a similar device in the same way." *Id.* at 39 (citing Ex. 1003 ¶ 105). Based on these assertions, Petitioner argues

that a POSITA would have been “motivated to combine Ulrich’s teachings with the Volpe Manual’s teachings to overcome the disadvantages of manually pivoting a support arm and thereby automate the pivoting process, increase its efficiency, and promote operator safety.” Pet. 38 (citing Ex. 1003 ¶ 103).

Petitioner’s challenge to claim 17 asserts that “[u]sing the machine claimed in claim 1 would satisfy the method claimed in claim 17 so long as the projecting position and the retracted position form an arc of at least 90°.” Pet. 40. Accordingly, for the structure and results recited in claim 17, Petitioner’s challenge relies on the same assertions regarding claim 1 discussed above. *Id.* at 41. Additionally, Petitioner asserts that “[a] POSITA would consider using [Ulrich’s] hydraulic cylinders to controllably swing the arm and controllably turn the track as controllably actuating these actuators.” *Id.* (citing Ex. 1003 ¶ 110).

Petitioner also asserts that “Ulrich further discloses that ‘all of the motor and power means of the machine are connected to appropriate individual controls, indicated generally at 50, provided at an operator’s station.’” *Id.* (citing Ulrich, 2:22-24, FIG. 1). Based on this assertion, Petitioner concludes that “an operator would use these individual controls 50 to controllably actuate motor means 22 and motor means 24, thus satisfying these claim limitations.” *Id.* (citing Ex. 1003 ¶ 111).

Regarding the claimed requirement that the projecting and retracted positions of the wheel or track form an arc of at least 90°, Petitioner asserts that this arc is shown in the Figure AH-7. Pet. 43; Ex. 1005, 51. Petitioner also asserts that Ulrich discloses an arc in excess of 90°. *Id.* at 44 (citing Ex. 1006, 4:69–71). Based on these submissions, Petitioner asserts that claim 17

would have been obvious to one skilled in the art at the time of the invention. *Id.* at 45 (citing Ex. 1003 ¶ 116).

Regarding claims 18, 19, 24, and 25, Petitioner identifies where either Volpe or Ulrich meet the additional features of these claims. *See* Pet. 45–52. Patent Owner does not address these additional features.<sup>6</sup> Accordingly, in the interest of brevity we do not reiterate Petitioner’s assertions for these claims.

#### 4. *Patent Owner’s Response*

Patent Owner argues that “Petitioners failed to establish a reasonable likelihood of success for each of the challenged claims because, for each of its grounds, they failed to present a proper *Graham* analysis by not addressing any differences between the claimed subject matter and the prior art.” Prelim. Resp. 28–29. Patent Owner further argues that “Petitioners’ combinations of references are facially deficient because the petition fails to articulate an adequate motivation to combine the features of the prior art to yield the claimed invention.” *Id.* at 31.

#### 5. *Analysis*

##### *a. Alleged Failure to Address Differences Between Prior Art and Claimed Subject Matter*

Although Petitioner’s challenges do not include a section or sections that specifically identify the differences between the claimed subject matter and the prior art, we are not persuaded that the challenges do not address

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<sup>6</sup> Patent Owner’s only reference to claims 18 and 19 merely notes that the rejection of these claims relies on the same rationale as the rejection of claim 1. *See* Prelim. Resp. 34. The Preliminary Response does not mention claims 24 and 25.

these differences. For example, the challenge to claim 1 relies on Ulrich alone to meet the limitation requiring a first actuator operable to pivot the support arm relative to the frame. *See* Pet. 35–37. Such reliance on Ulrich alone implies that one of the differences between Volpe and the claimed subject matter is the use of a first actuator as claimed. Similarly, the challenge to claim 1 relies on Ulrich alone to meet the limitation requiring a second actuator adapted to rotate the wheel or track about a vertical axis. *See* Pet. 37–39. Again, such reliance on Ulrich by itself implies that a difference between Volpe and the claimed subject matter is the use of a second actuator as claimed. Moreover, the challenge explicitly states that “the Volpe Manual did not describe the use of actuators to pivot the support arm,” which also addresses a difference between Volpe and the claimed subject matter. Pet. 24.

Petitioner’s remaining challenges also highlight the differences between the prior art and the claimed subject matter in a similar manner. We are unaware of any requirement that the differences between the prior art of the claimed subject matter be addressed in a separate section in order to provide a proper analysis supporting a reasonable likelihood of prevailing nor does Patent Owner direct us to such a requirement. Accordingly, Patent Owner’s argument that Petitioner’s challenges fail to address differences between the claimed subject matter and the prior art is unconvincing.

*b. Alleged Failure to Articulate Adequate Motivation to  
Combine the Features of the Prior Art*

Patent Owner alleges that “the discussion of a motivation to combine the Volpe Manual with Ulrich falls within a mere three paragraphs on pages 38–39 of the petition following its analysis of claim 1.” Prelim. Resp. 31.

Patent Owner further alleges that “[o]f these three paragraphs, there is a single sentence that is the sole attempted explanation of why a POSITA would be motivated to combine the various challenged features of the claims based on the teachings of Volpe Manual and Ulrich.” *Id.* (citing Pet. 38). Given these allegations, Patent Owner argues that the “purported motivation is conclusory and facially deficient.” *Id.* (citation omitted).

Patent Owner also alleges that “Petitioners offer three purported but unexplained benefits that Ulrich’s teachings could add to the Volpe Manual: (1) automating the pivoting process; (2) increasing its efficiency; and (3) promoting operator safety.” Prelim. Resp. 32 (citing Pet. 38) (footnote omitted). Patent Owner asserts that “the first purported reason is impermissibly driven by hindsight” and “[t]he second and third reasons, increasing efficiency and promoting operator safety, are merely generalized purported benefits, and Petitioners do not link them to the features of the challenged claims of the ’693 patent.” *Id.* at 32, 33–34 (citation omitted).

We do not agree that Petitioner’s discussion of the reasons for the proposed modification are limited to the three paragraphs identified by Patent Owner. Rather, Petitioner’s articulated rationale is discussed throughout its challenge to claim 1 set forth on pages 23–40 of the Petition. For example, on page 24 Petitioner explains that:

Although the Volpe Manual did not describe the use of actuators to pivot the support arm, it was known before the ’693 patent’s earliest priority date that automating this pivoting process was desirable. (Arnold Decl., ¶¶6–7, 97–98.) Specifically, artisans recognized that manually pivoting a swing leg “is awkward for the operator who is forced, in order to carry it out, to get out of the machine and to go on both sides of it to carry out the move of the wheel rotation.” (Bitelli ’088, ¶0010.) Getting out of the machine and manually moving the wheel was

inefficient and unsafe. (Arnold Decl., ¶¶7, 97.) And artisans recognized that automating the process of pivoting the swing leg could overcome these difficulties for the operator. (Bitelli '088, ¶¶0011, 0016.)

Pet. 24. Based on this explanation, Petitioner reasons that “a POSITA would have had a reason to consider ways of automating the process of pivoting the support arm in the Volpe Manual.” *Id.* (citing Arnold Dec. ¶¶ 7, 98, 103).

As another example, Petitioner reasons that:

a POSITA would have had a reasonable expectation of success in modifying the Volpe Manual with Ulrich to arrive at the claimed invention because Ulrich’s actuators would perform the same function as they do in Ulrich on the machine described in the Volpe Manual, which already included a hydraulic system. (Arnold Decl., ¶¶7, 105.) Indeed, automating other swing legs (including four bar linkages and single support arms) had already successfully been achieved. (*See, e.g.*, Bitelli '088, ¶¶0024–0025, FIGS. 3–5; Gutman, 3:29–41, FIG. 3; Simons, 4:15–21, FIGS. 3a–3c; Arnold Decl., ¶41.) As Caterpillar stated, the problem was merely “a standard basic problem in kinematics.” ('693 file history, 169.)

*Id.* at 25. Additional reasoning is also articulated on pages 33, 34, and 37 of the Petition. Patent Owner does not identify specific flaws in Petitioner’s articulated reasoning. Moreover, given Petitioner’s extensive discussion throughout its challenges of the reasons for the proposed modifications, Patent Owner’s argument that Petition fails to articulate adequate motivation, based on the current record, is unconvincing.

Further, on the record before us, we are not persuaded that Petitioner’s reasoning is impermissibly driven by hindsight or directed to merely generalized purported benefits. Patent Owner does not identify any reasoning articulated by Petitioner that was gleaned only from the '693 patent or explain why the information relied upon by Petitioner in its

articulated reasoning was not within the knowledge of one of ordinary skill in the art. Further, Patent Owner does not address the benefits enumerated by Petitioner, but rather, merely asserts that these benefits are generalized.

*c. Conclusion Regarding Volpe and Ulrich*

For the foregoing reasons, we are persuaded that the Petitioner has demonstrated a reasonable likelihood of prevailing on its assertion that Volpe and Ulrich render claim 1 obvious. As Patent Owner relies on the same arguments for claim 17, we are also persuaded that Petitioner establishes a reasonable likelihood that Volpe and Ulrich renders claim 17 obvious as well. Patent Owner does not present separate arguments for claims 18 and 19, and does not present any arguments for claims 24 and 25. We see no apparent errors in these grounds and there are no arguments for us to consider. On the record before us, we are also persuaded that Petitioner establishes a reasonable likelihood that Volpe and Ulrich render these claims obvious.

*E. Remaining Grounds*

Regarding, Grounds 2 and 4, Patent Owner baldly asserts that “Petitioners also fail to explain how their proposed combination could be made with a reasonable expectation of success.” Prelim. Resp. 34. Patent Owner, however, does not explain why Petitioner’s articulated reasoning is flawed or why it is lacking in detail. In the absence of such explanations, Patent Owner’s argument is unconvincing.

Regarding Ground 3, Patent Owner asserts that “Petitioners argue that a POSITA could have combined Volpe Manual with Ulrich or Busley, not that one would have combined Volpe Manual with Ulrich and Busley. Petitioners thus fail to meet their burden of establishing a credible

motivation to combine.” Prelim. Resp. 35 (citations omitted). In support of this assertion, Patent Owner directs our attention to pages 62–66 of the Petition. *Id.* at 36.

Patent Owner’s assertion is not well taken. Throughout the challenge set forth in Ground 3, Petitioner explains why the proposed modifications *would* have been obvious. *See* Pet. 59–66. Although, the reasoning does employ the word “could” once in this analysis, such use of the word “could” does not render the entire articulated reasoning flawed.

On the record before us, we are persuaded that Petitioner establishes a reasonable likelihood of prevailing on Grounds 2–4 as well.

### III. CONCLUSION

For the foregoing reasons, upon review of Petitioner’s analysis and supporting evidence and Patent Owner’s response, we conclude that Petitioner has demonstrated a reasonable likelihood that it will prevail with regard to its challenges. Although, we exercise our discretion and institute review, we remind the parties that we have not yet made a final determination as to the patentability of any challenged claims or the construction of any claim term.

### IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that pursuant to 35 U.S.C. § 314(a), an *inter partes* review is instituted as to claims 1–3, 5, 6, 15–19, 24–28, 36, and 38 on all grounds raised in the Petition; and

FURTHER ORDERED that pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial, the trial commencing on the entry date of this Decision.

IPR2018-01201  
Patent 7,140,693 B2

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